This listing of claims will replace the prior version in the application:

Claims

1. (Currently amended) Process for preparing a mercaptan ~~from~~ comprising contacting a thioether and hydrogen sulphide, ~~characterized in that it is carried out~~ in the presence of hydrogen and a catalyst composition comprising a strong acid and at least one metal ~~belonging to~~ selected from group VIII of the Periodic Table.

2. (Currently amended) Process according to ~~Claim~~ claim 1, ~~characterized in that~~ wherein the strong acid is selected from the group consisting of:

- (a) one or more heteropolyacids selected from[:
  - (i) a compound of formula:] the group $H_3PW_{12}O_{40}\cdot nH_2O$, $H_4SiW_{12}O_{40}\cdot nH_2O$ or $H_6P_2W_{18}O_{62}\cdot nH_2O$, in which n is an integer representing the number of molecules of water of crystallization, and is between 0 and 30, ~~preferably between 6 and 20;~~
  - ~~(ii) a~~ potassium, rubidium, caesium or ammonium ~~salt~~ salts thereof ~~of at least one compound (i), or a mixture~~ and mixtures of such salts;
- (b) a sulphated zirconium oxide,
- (c) a tungstic zirconium oxide,
- (d) a zeolite, and
- (e) a cationic resin.

3. (Currently amended) Process according to ~~Claim 2~~ claim 1, wherein ~~characterized in that the catalyst employed comprises~~ the strong acid is selected from the group potassium, rubidium, caesium or ammonium salts or a mixture of such salts of $H_3PW_{12}O_{40}\cdot nH_2O$, $H_4SiW_{12}O_{40}\cdot nH_2O$ or $H_6P_2W_{18}O_{62}\cdot nH_2O$, in which n is an integer representing the number of molecules of water of crystallization, and is between 0 and 30, a sulphated zirconium oxide, a tungstic zirconium oxide, a zeolite, and a cationic resin. ~~as strong acid a hetrepolyaci (ii), or one of the compounds (b), (c), (d) or (e)~~.

4. (Currently amended) Process according to ~~Claim 3~~claim 1, ~~characterized in that~~ wherein the catalyst composition comprises:

- from 90% to 99.9%, ~~preferably from 98.5% to 99.5%,~~ by weight of strong acid, and

- from 0.01% to 10%, ~~preferably from 0.05% to 1.5%,~~ by weight of at least one metal from group VIII.

5. (Currently amended) Process according to ~~Claim 2~~claim 1, ~~characterized in that the catalyst employed comprises as~~ wherein the strong acid is a heteropolyacid ~~(i).~~ selected from the group $H_3PW_{12}O_{40}\cdot nH_2O$, $H_4SiW_{12}O_{40}\cdot nH_2O$ or $H_6P_2W_{18}O_{62}\cdot nH_2O$, in which n is an integer representing the number of molecules of water of crystallization, and is between 0 and 30.

6. (Currently amended) Process according to ~~Claim~~claim 5, ~~characterized in that~~ wherein the catalyst composition comprises:

- from 10% to 60%, ~~preferably from 25 to 50%,~~ by weight of strong acid,

- from 0.01% to 10%, ~~preferably from 0.1% to 2%,~~ by weight of at least one metal from group VIII, and

- from 30% to 80%, ~~preferably from 48% to 75%,~~ by weight of a support selected from silica SiO_2, alumina Al_2O_3, titanium dioxide TiO_2, zirconium oxide ZrO_2, and activated carbon.

7. (Currently amended) Process according to ~~either of Claims 5 and~~ claim 6, ~~characterized in that~~ wherein the strong acid ~~employed in the catalyst~~ is 12-phosphotungstic acid, ~~preferably impregnated on silica~~.

8. (Currently amended) Process according to one of ~~Claims 1 to 7~~claim1, ~~characterized in that~~ wherein the at least one metal ~~or metals belonging to group VIII of the Periodic Table are~~is selected from iron, cobalt, nickel, ruthenium, rhodium, palladium, osmium, iridium, and platinum.

9. (Currently amended) Process according to ~~Claim 8~~claim 1, ~~characterized in that~~ wherein the at least one metal ~~or metals are~~ is selected from palladium, ruthenium, and platinum.

10. (Currently amended) Process according to ~~either of Claims 8 and 9~~claim 1, ~~characterized in that~~ wherein the at least one metal is palladium.

11. (Currently amended) Process according to ~~one of Claims 1 and 5 to 10, characterized in that~~claim 1 wherein the catalyst composition comprises approximately 40% by weight of 12-phosphotungstic acid, 1% of palladium and 59% of silica.

12. (Currently amended) Process according to ~~one of Claims 1 to 11, characterized in that~~ claim 1, wherein the hydrogen is introduced in an amount corresponding to a molar H_2S/H_2 ratio of between 10 and 200~~, preferably between 50 and 100~~.

13. (Currently amended) Process according to ~~one of Claims 1 to 12, characterized in that~~ claim 1, wherein the thioether ~~used~~ has the general formula:

R-S-R' (I)

in which R and R', which are identical or different, represent a linear or branched alkyl radical of 1 to 20 carbon atoms, ~~preferably 1 to 12 carbon atoms,~~ or else a cycloalkyl radical of 3 to 7 carbon atoms.

14. (Currently amended) Process according to ~~one of Claims 1 to 13, characterized in that~~claim 1, wherein the hydrogen sulphide is introduced in an amount corresponding to a molar H_2S/thioether ratio of between 1 and 40, ~~preferably between 2 and 30, more preferably between 2 and 10~~.

15. (New) Process according to claim 1, wherein the catalyst composition comprises:

- from 98.5% to 99.9%, by weight of strong acid, and
- from 0.05% to 1.5%, by weight of at least one metal from group VIII.

16. (New) Process according to Claim 5, wherein the catalyst composition comprises:

- from 25 to 50%, by weight of strong acid,
- from 0.1% to 2%, by weight of at least one metal from group VIII, and
- from 48% to 75%, by weight of a support selected from silica SiO_2, alumina Al_2O_3, titanium dioxide TiO_2, zirconium oxide ZrO_2, and activated carbon.

17. (New) Process according to claim 1, wherein the hydrogen is introduced in an amount corresponding to a molar H_2S/H_2 ratio of between 50 and 100.

18. (New) Process according to claim 1, wherein the hydrogen sulphide is introduced in an amount corresponding to a molar H_2S/thioether ratio of between 2 and 30.

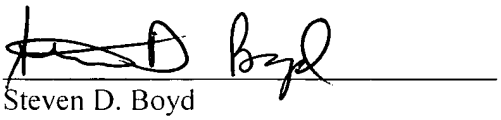
19. (New) Process according to claim 1, wherein the hydrogen sulphide is introduced in an amount corresponding to a molar H_2S/thioether ratio of between 2 and 10.

20. (New) Process according to claim 1, wherein n is between 6 and 20.

21. (New) Process according to claim 7, wherein said 12-phosphotungstic acid is impregnated on silica.

22. (New) Process according to claim 13, wherein said linear or branched alkyl radical has 1 to 12 carbon atoms.

Respectfully submitted,



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